

having from 1-3 heteroatoms selected from N, NR₇, O and S, cycloalkyl of 3-6 carbon atoms, -C₄-C₈-cycloheteroalkyl having from 1-3 heteroatoms selected from N, NR₇, O and S, alkyl of 1-18 carbon atoms, alkenyl of 2-18 carbon atoms, alkynyl of 2-18 carbon atoms;

R₁₂ is hydrogen, aryl or 5-10 membered heteroaryl having from 1-3 heteroatoms selected from N, NR₇, S and O, cycloalkyl of 3-6 carbon atoms, -C₅-C₈-cycloheteroalkyl having from 1 to 2 heteroatoms selected from N, NR₇, S and O, or alkyl of 1-6 carbon atoms;

A is O, S, SO, SO₂, NR₇, or CH₂;

X is O, S, SO, SO₂, NR₇, or CH₂;

Y is aryl or heteroaryl, with the proviso that A and X are not bonded to adjacent atoms of Y; and with the further proviso that Y is not phenyl; and
n is 0-2; or a pharmaceutically acceptable salt thereof.

Please cancel claim 3 and 4 without prejudice.

REMARKS

The present application is a divisional of co-pending U.S. serial no. 09/492,977. The specification has been amended to reflect the complete prosecution history. Applicants have amended the claims to remove subject matter already allowed in the parent application and to correct certain typographical errors.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with Markings to Show Changes Made."

Applicants believe that the present application is in condition for allowance and respectfully request that the Examiner enter the amendment and allow the application. Favorable treatment of the application is earnestly solicited.


John W. Hogan, Jr.

Reg. No. 32,703

American Home Products Corporation
Patent Law Department
Five Giralda Farms
Madison, NJ 07940
Tel. No. (973) 683-2152

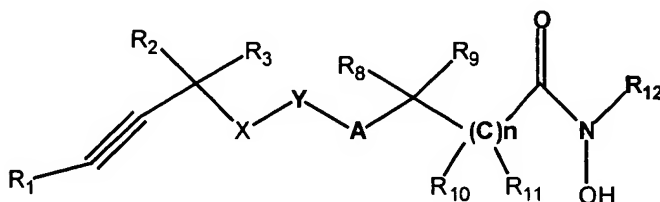
Version with Markings to Show Changes Made

--This is a divisional of copending application(s) serial number 09/492,977 filed on January 27, 2000, which claims the benefit of U.S. Serial No. 60/160,085 filed on January 27, 1999; the entire disclosure of each prior application is hereby incorporated by reference. — This application claims the benefit of U.S. Provisional Application No. 60/160,085, filed January 27, 1999.

In the Claims

What is claimed:

1. (Amended) A compound of formula



wherein:

- R₁ is hydrogen, aryl, heteroaryl, alkyl of 1-6 carbon atoms, alkenyl of 2-6 carbon atoms, alkynyl of 2-6 carbon atoms, cycloalkyl of 3-6 carbon atoms, or C₅-C₈-cycloheteroalkyl having from 1-2 heteroatoms selected from N, NR₇, S and O;
- R₂ and R₃ are each independently, hydrogen, alkyl of 1-6 carbon atoms, -CN, or -CCH;
- R₅ is hydrogen, alkyl of 1-8 carbon atoms, cycloalkyl of 3-6 carbon atoms, aryl, heteroaryl, or C₄-C₈-cycloheteroalkyl;
- R₇ is hydrogen, aryl, aralkyl, alkyl of 1-6 carbon atoms, or cycloalkyl of 3-6 carbon atoms, oxy, C₁-C₈ alkanoyl, COOR₅, COR₅, -SO₂-C₁-C₈ alkyl, -SO₂-aryl, -SO₂-heteroaryl, -CO-NHR₁;
- R₈, R₉, R₁₀, and R₁₁ are each, independently, hydrogen, aryl, aralkyl, 5-10 membered heteroaryl having from 1-3 heteroatoms selected from N, NR₇, O and S, heteroaralkyl having from 1-3 heteroatoms selected from N, NR₇, O and S, cycloalkyl of 3-6 carbon atoms, -C₄-C₈-cycloheteroalkyl having from 1-3 heteroatoms selected from N, NR₇, O and S, alkyl of 1-18 carbon atoms, alkenyl of 2-18 carbon atoms, alkynyl of 2-18 carbon atoms;

R₁₂ is hydrogen, aryl or 5-10 membered heteroaryl having from 1-3 heteroatoms selected from N, NR₇, S and O, cycloalkyl of 3-6 carbon atoms, -C₅-C₈-cycloheteroalkyl having from 1 to 2 heteroatoms selected from N, NR₇, S and O, or alkyl of 1-6 carbon atoms;

A is O, S, SO, SO₂, NR₇, or CH₂;

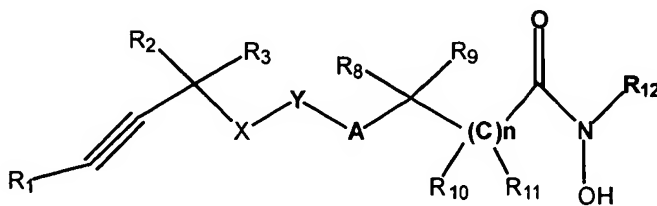
X is O, S, SO, SO₂, NR₇, or CH₂;

Y is aryl or heteroaryl, with the proviso that A and X are not bonded to adjacent atoms of Y and with the further proviso that Y is not phenyl; and

n is 0-2; or a pharmaceutically acceptable salt thereof.

2. A compound of Claim 1 wherein Y is ~~phenyl~~, pyridyl, thienyl, furanyl, imidazolyl, triazolyl or thiadiazolyl.

5. (Amended) A method of inhibiting pathological changes mediated by TNF- α converting enzyme (TACE) in a mammal in need thereof which comprises administering to said mammal a therapeutically effective amount of a compound having the formula:



wherein:

R₁ is hydrogen, aryl, heteroaryl, alkyl of 1-6 carbon atoms, alkenyl of 2-6 carbon atoms, alkynyl of 2-6 carbon atoms, cycloalkyl of 3-6 carbon atoms, or C₅-C₈-cycloheteroalkyl having from 1-2 heteroatoms selected from N, NR₇, S and O;

R₂ and R₃ are each independently, hydrogen, alkyl of 1-6 carbon atoms, -CN, or -CCH₃;

R₅ is hydrogen, alkyl of 1-8 carbon atoms, cycloalkyl of 3-6 carbon atoms, aryl, heteroaryl, or C₄-C₈-cycloheteralkyl;

R₇ is hydrogen, aryl, aralkyl, alkyl of 1-6 carbon atoms, or cycloalkyl of 3-6 carbon atoms, oxy, C₁-C₈ alkanoyl, COOR₅, COR₅, -SO₂-C₁-C₈ alkyl, -SO₂-aryl, -SO₂-heteroaryl, -CO-NHR₁;

R₈, R₉, R₁₀, and R₁₁ are each, independently, hydrogen, aryl, aralkyl, 5-10 membered heteroaryl having from 1-3 heteroatoms selected from N, NR₇, O and S, heteroaralkyl having from 1-3 heteroatoms selected from N, NR₇, O and S, cycloalkyl of 3-6 carbon atoms, -C₄-C₈-cycloheteroalkyl having from 1-3 heteroatoms selected from N, NR₇, O and S, alkyl of 1-18 carbon atoms, alkenyl of 2-18 carbon atoms, alkynyl of 2-18 carbon atoms;

R₁₂ is hydrogen, aryl or 5-10 membered heteroaryl having from 1-3 heteroatoms selected from N, NR₇, S and O, cycloalkyl of 3-6 carbon atoms, -C₅-C₈-cycloheteroalkyl having from 1 to 2 heteroatoms selected from N, NR₇, S and O, or alkyl of 1-6 carbon atoms;

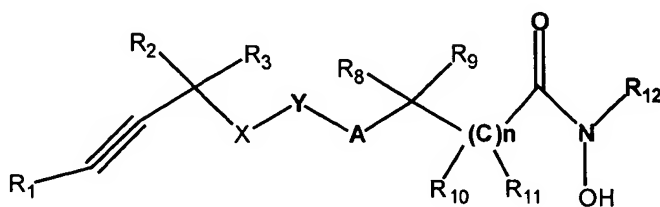
A is O, S, SO, SO₂, NR₇, or CH₂;

X is O, S, SO, SO₂, NR₇, or CH₂;

Y is aryl or heteroaryl, with the proviso that A and X are not bonded to adjacent atoms of Y and with the further proviso that Y is not phenyl; and

n is 0-2; or a pharmaceutically acceptable salt thereof.

7. (Amended) A pharmaceutical composition comprising a compound having the formula:



wherein:

R₁ is hydrogen, aryl, heteroaryl, alkyl of 1-6 carbon atoms, alkenyl of 2-6 carbon atoms, alkynyl of 2-6 carbon atoms, cycloalkyl of 3-6 carbon atoms, or C₅-C₈-cycloheteroalkyl having from 1-2 heteroatoms selected from N, NR₇, S and O;

R₂ and R₃ are each independently, hydrogen, alkyl of 1-6 carbon atoms, -CN, or -CCH;

R₅ is hydrogen, alkyl of 1-8 carbon atoms, cycloalkyl of 3-6 carbon atoms, aryl, heteroaryl, or C₄-C₈-cycloheteralkyl;

R7 is hydrogen, aryl, aralkyl, alkyl of 1-6 carbon atoms, or cycloalkyl of 3-6 carbon atoms, oxy, C1-C8 alkanoyl, COOR₅, COR₅, -SO₂-C1-C8 alkyl, -SO₂-aryl, -SO₂-heteroaryl, -CO-NHR₁;

R₈, R₉, R₁₀, and R₁₁ are each, independently, hydrogen, aryl, aralkyl, 5-10 membered heteroaryl having from 1-3 heteroatoms selected from N, NR₇, O and S, heteroaralkyl having from 1-3 heteroatoms selected from N, NR₇, O and S, cycloalkyl of 3-6 carbon atoms, -C₄-C₈-cycloheteroalkyl having from 1-3 heteroatoms selected from N, NR₇, O and S, alkyl of 1-18 carbon atoms, alkenyl of 2-18 carbon atoms, alkynyl of 2-18 carbon atoms;

R₁₂ is hydrogen, aryl or 5-10 membered heteroaryl having from 1-3 heteroatoms selected from N, NR₇, S and O, cycloalkyl of 3-6 carbon atoms, -C₅-C₈-cycloheteroalkyl having from 1 to 2 heteroatoms selected from N, NR₇, S and O, or alkyl of 1-6 carbon atoms;

A is O, S, SO, SO₂, NR₇, or CH₂;

X is O, S, SO, SO₂, NR₇, or CH₂;

Y is aryl or heteroaryl, with the proviso that A and X are not bonded to adjacent atoms of Y and with the further proviso that Y is not phenyl; and

n is 0-2; or a pharmaceutically acceptable salt thereof.

Claims 3 and 4 have been cancelled without prejudice.